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PATENT APPLICATION
Docket No.: 13768. 1085
</div>

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of		)
	Gueorgui Bonov Chkodrov, et al.	)
		)
Serial No.:	10/670,276	) Art Unit
		) 2166
Confirmation No.:	4935	)
		)
Filed:	09/26/2003	)
		)
For:	Method for maintaining information	)
	About multiple instances of an activity	)
		)
Examiner:	Srirama T. Channavajjala	)

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REPLY BRIEF OF APPELLANTS
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VIA eFILE Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

On July 3, 2008, the Examiner mailed an Examiner's Answer ("Examiner's Answer") to respond to Appellant's timely-filed Appeal Brief. This Reply Brief is being filed under the provisions of 37 C.F.R. § 41.41. This brief is being filed on September 1, 2008 and is therefore timely under 37 C.F.R. § 41.41.

I.   **INTRODUCTION**

In the Examiner's Answer, the Examiner has withdrawn his prior rejections under 35 U.S.C. § 112, 2nd paragraph, and under the doctrine of obviousness type double patenting. (Examiner's Answer, pp. 2-3). Thus, appealed claims 1-46 currently stand

rejected under 35 U.S.C. § 101 as directed to non-statutory subject matter, and under 35 U.S.C. § 103 as obvious in view of U.S. Patent No. 6,477,525 to Bellow et al. ("Bellow") in view of U.S. Publication No. 2003/0217075 of Nakano et al. ("Nakano") and in further view of U.S. Publication No. 2004/0139061 of Colossi et al. ("Colossi").

Appellant respectfully submits that the Examiner's rejection under § 101 is improper because the Examiner fails to properly apply the law and guidelines governing statutory subject matter under § 101. The Examiner continues to hold to the mistaken argument that the process must result in an "output, displayed or at least stored to a user" to have a "real-world result." Although the claimed invention does not create an "output" in the form of new and useful information, the claimed invention produces the "real-world" benefits of at least reducing the response time required to respond to queries to a database for information from records for instances in the active condition. This decreased response time saves valuable time and resources, which is a desirable and tangible "real-world result."

Appellant respectfully submits that the Examiner's rejection under 35 U.S.C. § 103 is also mistaken. The Examiner's Answer has again failed to present a *prima facie* case of obviousness because the references cited by the Examiner do not disclose at least the following claimed elements: 1) "each instance having an active condition in which information about the instance is to be modified or an inactive condition in which information about the instance is not to be modified," 2) "creating a record in a first database table for each of the multiple instances in the active condition," 3) "deleting from the first table records of instances having values in the one or more fields indicative of the inactive condition," 4) "creating, for records deleted from the first table, a

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corresponding record in a second database table," and 5) "reducing a size of the first database table to prevent degradation of response times when database users access the records for the instances in the active condition." The Examiner's citations to references of record simply do not teach any of these claimed elements, and therefore do not create a *prima facie* case of obviousness. For these reasons, and the additional reasons set forth below and in the Appeal Brief, the Examiner's rejections should respectfully be withdrawn and the claims be allowed.

II. **ARGUMENT**

A.   *The Examiner's § 101 Rejection Is Improper Because the Examiner Fails to Recognize the "Practical Application" and "Real-world Value" of Increased Efficiency and Time Savings Provided by the Invention Claimed in Claims 1-46*

Although the Examiner correctly cites the guidelines of MPEP 2106(II)A that an invention must produce a "useful, concrete and tangible result" to qualify as statutory subject matter under § 101, the Examiner erred in applying these guidelines to the claimed invention. The Examiner quotes MPEP 2106(II)A: "The purpose of this requirement is to limit patent protection to inventions that possess a certain level of 'real world' value, as opposed to subject matter that represents nothing more than an idea or concept, or is simply a starting point for future investigation or research. Accordingly, a complete disclosure should contain some indication of the **practical application** for the claimed invention, i.e., why the applicant believes the claimed invention is useful." (Examiner's Answer, p. 4. (emphasis by Examiner) (citations omitted)). This requirement is met by each of the independent claims, which explicitly states that the invention "prevent[s] the degradation of response times when database users access the records for the instances in the active condition[.]" (Claims 1, 23, 45). In laymen's terms, the invention saves user time and computing resources by decreasing the time

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needed to access information in record of the active instances. Saving user time and computer resources clearly and indisputably satisfy the "practical application" and "real-world value" required by § 101.

The following example further illustrates this practical application and the real-world value provided by the application. Take, for instance, the company Amazon.com. Assume that Amazon.com processes 10,000 orders a day through its website and stores the orders in a database. Each order is an "active instance" and subject to modification until 30 days after the order is filled, at which time the order becomes an "inactive instance." At the rate of 10,000 orders per day, the database would accumulate an additional 1,000,000 records of instances every 100 days, most of which would be records of inactive instances. The more records of instances that accumulate in the database, the longer response times will become to access information in the database because all those records must be searched to respond to each request.

However, most of the queries to the database are for information regarding "active instances," such as to search for orders as customers call to inquire regarding the status of their order that either has not been filled, or was recently filled.[1] With each passing day, the response time for queries to the data base will get longer and longer due the ever-increasing number of instances that must be searched to respond to queries to the database. In other words, the response time to access information of active instances will degrade because of the accumulation of the inactive instances contained in the same database as the active instances.

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[1] The need to access orders that have been filled for more that 30 days, i.e. "inactive instances," would be far less than the need to access active instances because most customers call regarding orders that either have not been filled, or regarding orders that were only recently filled (e.g., when the wrong goods were shipped).

Using the claimed invention, however, the response time for accessing information regarding active instances would not degrade or get longer due to accumulation of inactive instances in the database. Instead, the claimed invention would delete inactive instances from the database containing the active instances, and place the records of inactive instances in a separate database table. The real world result is that users of the database, such as customer service representatives, would be able to access information regarding active instances more quickly. This would decrease the time necessary to respond to customer questions, thereby allowing them to service more customers per hour and increase customer satisfaction at a reduced cost. All of these benefits are real-world results and value provided by the claimed invention and its practical application to reducing response times for information of active instances, as stated in claims 1-46. Thus, the claimed invention qualifies as statutory subject matter under § 101, and this rejection by the Examiner should respectfully be withdrawn.

B.   *The Examiner's § 103 Rejections of Claims 1-46 Are Improper Because the Examiner Has Failed to Identify Each Limitation of the Independent Claims in the Prior Art*

The Examiner's § 103 rejections in the Office Action and the Answer have failed to present a *prima facie* case of obviousness because the references cited by the Examiner do not disclose at least the following claimed elements, each of which are contained in every claim: 1) "each instance having an active condition in which information about the instance is to be modified or an inactive condition in which information about the instance is not to be modified," 2) "creating a record in a first database table for each of the multiple instances in the active condition," 3) "deleting from the first table records of instances having values in the one or more fields indicative of the inactive condition," 4) "creating, for records deleted from the first table, a corresponding record in a second

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database table," and 5) "reducing a size of the first database table to prevent degradation of response times when database users access the records for the instances in the active condition." To present a *prima facie* obviousness rejection under § 103, the Examiner must consider each of these limitations. MPEP § 2143.03. In other words, if the Examiner fails to identify any one of these limitations either in the prior art or otherwise within the knowledge of a person of ordinary skill in the art, then the Examiner's § 103 rejection is improper and should be withdrawn. *See In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974) (all the limitations of a claim must be addressed to establish *prima facie* obviousness).

The Appeal Brief explains why each of the citations to the prior art by the Examiner fails to disclose these limitations. Instead of addressing Appellant's arguments set forth in the Appeal Brief, the Examiner has simply restated the same rejections contained in the Office Action. As stated in the Appeal Brief and further explained below, the Examiner's citations to the references of record simply do not teach any of these claimed elements, and therefore do not create a *prima facie* case of obviousness.[2]

> **1.   The Examiner Has Failed to Cite Prior Art Teaching the Limitation of "Each Instance Having an Active Condition in which Information about the Instance Is To Be Modified or an Inactive Condition in which Information about the Instance Is Not To Be Modified"**

Each of the independent claims 1, 23 and 45 require the instances in the database to have an active condition in which information about the instance is to be modified or an inactive condition in which information about the instance is not to be modified.

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[2]   The Examiner also failed to address Applicant's arguments in the Appeal Brief separately arguing dependant claims 2, 3, 6-8, 11, 24, 25, 28, 29, 30 and 33 as separately argued in the Appeal Brief at pages 23-27. Applicant continues to stand by the arguments of non-obviousness of these claims as set forth in the Appeal Brief.

Thus, to present a *prima facie* obviousness rejection under § 103, the Examiner must identify this limitation in the prior art or within the knowledge of one of skill in the art.

The Examiner cites only to Bello at columns 2, lines 6-8 and column 4, lines 40-44 as teaching this limitation. (Examiner's Answer, p. 12). These passages, however, have absolutely no teaching regarding instances, and more specifically, of instances that have an active or inactive condition.

As explained in the Appeal Brief, Bello concerns *queries* to databases, *not* the *contents* of the databases themselves. More specifically, Bello discloses an invention that automatically rewrites a query to a database to reference "materialized views" of the database when the materialized views contain the information that is responsive to the query. "Materialized views" are simply copies of portions of the data that is stored separately from the original data in the databases. (Bello, 1:66-2:5). Bello explains that queries referencing materialized views of a databases decrease the response time required to process the query because the materialized views "eliminate the overhead associated with gathering and deriving the view data [i.e., the raw data in the database] every time a query accesses the view [i.e., database]."[3] (*Id.*).

The first passage cited by the Examiner states, "As new data is periodically added to the base tables, the materialized view needs to be updated (i.e., refreshed) to reflect the new base data." (Bello, 2:6-8). This passage simply teaches that the materialized views, i.e. the copies of the database, must be updated when new data is entered into the

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[3]   Ironically, Bello has the same "practical application" and "real-world value" required by § 101 as the claims of the present invention – decreasing the response time needed to access information. (*See* Bello, 5:3-6 ("By using the te3chniques described herein, more queries can take advantage of the set of materialized views that exist in the database, **thus resulting in improved query execution speeds.**") (emphasis added)). A primary difference between Bello and the present invention, however, is that Bello reduces response times by manipulating (i.e. rewriting) the *query*, and the present invention reduces response times by managing the *content* of the database.

database so that the materialized views contain the newly entered data. This passage has nothing to do with whether instances recorded in the database have an active or inactive condition.

The second passage cited by the Examiner is equally irrelevant. That passage states, "Upon receiving the query, it is determined whether the particular materialized view satisfies each condition in a set of conditions, where the set of conditions at least includes a condition that the materialized view reflects all rows that exist in a common section." (Bello, 4:39-44). This passage simply explains part of the process the invention of Bello performs in determining whether a query can be rewritten to reference a materialized view instead of directly referencing the database. As explained by the passage, the invention must first determine whether the materialized view contains all of the information responsive to the query (i.e., all of the rows) before the invention rewrites the query to reference the materialized view instead of the database. Again, this passage has nothing to do with instances recorded in a database, and whether those instances have an active or inactive condition. The Examiner has failed to cite any other teaching of "each instance having an active condition in which information about the instance is to be modified or an inactive condition in which information about the instance is not to be modified" as required by each claim. Consequently, the Examiner has failed to present a *prima facie* case of obviousness for claims 1-46 and the Examiner's § 103 rejections should respectfully be withdrawn.

2. The Examiner Has Failed to Cite Prior Art Teaching the Limitation of "Creating a Record in a First Database Table for Each of the Multiple Instances in the Active Condition"

Each of the independent claims 1, 23 and 45 require "creating a record in a first database table for each of the multiple instances in the active condition[.]" Thus, to

present a *prima facie* obviousness rejection, the Examiner must identify this limitation in the prior art or within the knowledge of one of skill in the art.

The Examiner argues that Bellow teaches this limitation. (Examiner's Answer, p. 13). The Examiner is apparently confused regarding the teachings of Bello. The Examiner argues that materialized views containing records with fields for "a plurality of data types" somehow teaches "each active instance record having a value indicative of the active condition." (*Id.* (citing Bello, 12:50-61)). That materialized views have records with fields and "a plurality of data types" does not disclose the creation of a record in a database table, let alone creating such a record for each of the multiple instances in an active condition. In short, materialized views are derived from the information *already contained* in a database, and, consequently, have nothing to do with creating records in the underlying database.[4]

The Examiner's citation to Bello at column 12, lines 50-61, to support this position is misplaced. Column 12, lines 50-61 of Bello simply provides an example of a query. Queries do not create records in databases, they retrieve and/or derive information from the records already contained in the database. This citation to Bello is irrelevant to the creation of records in a database, and does not teach the limitation of "creating a record in a first database table for each of the multiple instances in the active condition[.]" Because the Examiner has failed to identify this limitation in any prior art reference, the Examiner has failed to present a *prima facie* case of obviousness and the Examiner's § 103 rejections of claims 1-46 should respectfully be withdrawn.

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[4] This is further established by the need to refresh materialized views when new data is entered into the database as discussed above. If the materialized views created records of active instances in the database, the materialized views would not need to be refreshed or updated when new records are added to the database. (*See* Bello, 2:6-8 ("As new data is periodically added to the base tables, the materialized view needs to be updated (i.e. refreshed) to reflect the new base data.").

3. The Examiner Has Failed to Cite Prior Art Teaching the Limitation of "Deleting from the First Table Records of Instances Having Values in the One or More Fields Indicative of the Inactive Condition"

Each of the independent claims 1, 23 and 45 require "deleting from the first table records of instances having values in the one or more fields indicative of the inactive condition[.]" Thus, to present a *prima facie* obviousness rejection, the Examiner must identify this limitation in the prior art or within the knowledge of one of skill in the art.

The Examiner again mistakenly relies on Bello as teaching this limitation. The Examiner argues that Bello's teaching that a "materialized view may be rewritten in order to delete or remove[e] duplicate records using 'DISTINCT'" teaches deleting instances in the inactive condition from the database. (Examiner's Answer, p. 13 (*citing* Bello, 15:18-22)). The Examiner is wrong.

First, the materialized views are merely copies from the database, so deleting "duplicate records" in the materialized views does not change the underlying database or its contents. Second, Bello only teaches deleting "duplicate records," it says nothing of deleting records in an inactive condition. Third, the Examiner's obscure statement that "'delete, update, add' records are integral part of any relational database management structure" does not address the specific deletion of inactive instances as claimed. The Examiner has not identified this limitation anywhere in the prior art. Consequently, the Examiner has failed to present a *prima facie* case of obviousness, and the Examiner's § 103 rejections of claims 1-46 should be respectfully removed.

4. The Examiner Has Failed to Cite Prior Art Teaching the Limitation of "Creating, for Records Deleted from the First Table, a Corresponding Record in a Second Database Table"

Each of the independent claims 1, 23 and 45 require "creating, for records deleted from the first table, a corresponding record in a second database table[.]" Thus, to present a *prima facie* obviousness rejection, the Examiner must identify this limitation in the prior art or within the knowledge of one of skill in the art.

The Examiner cites to Bello at column 16, lines 25-30 as teaching this limitation. (Examiner's Answer, p. 13). This passage of Bello, however, regards how the invention of Bello must rewrite queries to reference materialized views that have duplicate "child-side" rows. As taught by Bello, if a materialized view containing duplicate rows is not a summary table, then the duplicate rows can simply be deleted. (Bellow, 16:25-41). However, if a materialized view containing duplicate rows is a summary table, the duplicate rows can not be deleted because this will alter the summary information of the materialized view. (*See* Bello, 16:33-41). Thus, for materialized views that are also summary tables, the query "must be re-written in such a way to counteract the effect of child-side rows that are reflected multiple times[.]" (*Id.*). Nowhere does this passage discuss or disclose *creating* records in a database. Nowhere does this passage discuss or disclose creating "a corresponding record in a second database table" for records deleted from the first database table. The Examiner's citation to Bello is inapposite and irrelevant to this limitation claimed in the present application. The Examiner has not identified this limitation anywhere in the prior art. Consequently, the Examiner has failed to present a *prima facie* case of obviousness for claims 1-46, and the Examiner's § 103 rejections should be respectfully removed.

5. **The Examiner Has Failed to Cite Prior Art Teaching the Limitation of "Reducing a Size of the First Database Table to Prevent Degradation of Response Times When Database Users Access the Records for the Instances in the Active Condition"**

Each of the independent claims 1, 23 and 45 require "reducing a size of the first database table to prevent degradation of response times when database users access the records for the instances in the active condition[.]" Thus, to present a *prima facie* obviousness rejection, the Examiner must identify this limitation in the prior art or within the knowledge of one of skill in the art.

In the Examiner's Answer, the Examiner admits that Bello does not teach this limitation. (Examiner's Answer, p. 14). The Examiner argues that Nakano discloses this limitation. (*Id.*) The Examiner is again mistaken.

As explained in the Appeal Brief, Nakano regards reusing storage areas of a database from which data was previously deleted. (Appeal Brief, p. 21). The Examiner's Answer does not address these arguments. Instead the Examiner has simply restated the rejections without any significant analysis of what Nakano actually teaches. For example, Paragraph 0007 of Nakano, cited by the Examiner, neither mentions nor discloses reducing the size of a database, let alone doing so to prevent degradation of response times. Similarly, the Examiner's reliance on paragraph 0014 is mistaken. Paragraph 0014 of Nakano discusses "a method to prevent the deterioration of storage efficiency . . . ." Paragraph 0014 of Nakano fails to disclose or discuss reducing the size of a database to prevent degradation of response times as claimed. Nakano, neither alone nor in combination with Bello, teaches this limitation of claims 1-46. The Examiner has failed to meet his burden of identifying this limitation in the prior art. The Examiner's

rejections under § 103 do not present a *prima facie* case of obviousness of claims 1-46, and the rejections should respectfully be withdrawn.

III. CONCLUSION

For the foregoing reasons, and the additional reasons set forth in the Appeal Brief, the Appellant respectfully requests the Board to overturn the Examiner's rejections of the appealed claims 1-46 and to allow these pending claims in their present form.

Dated August 29, 2008.

Respectfully submitted,

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